TRANSMITTAL OF APPEAL BRIEF (Large Entity)

Docket No. 3795

In Re Application Of: **HAASE, B.**

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/594,285	**09/26/2006**	**WHITTINGTON, K.**	**278**	**2862**	**6104**

Invention: **DEVICE FOR LOCATING...**

COMMISSIONER FOR PATENTS:

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07/1/2009

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Examiner: Whittington, K. Art Unit: 2862 Docket No. 3795

In re:

Applicant: HAASE, B.

Serial No.: 10/594,285

Filed: September 26, 2006

APPEAL BRIEF

September 30, 2009

Hon. Commissioner of
Patents and Trademarks
Washington, D.C. 20231

Sirs:

The Appellant submits the following for his brief on appeal and respectfully request consideration of same. The Appellant requests withdrawal of the rejections made and that the Application be placed in line for Allowance.

I. REAL PARTY IN INTEREST

The real party in interest in the instant application is the assignee of the application, Robert Bosch GmbH, Stuttgart, Germany.

II. RELATED APPEALS AND INTERFERENCES

The Appellant is unaware of any related appeals or interferences with regard to the application.

III. STATUS OF CLAIMS

Claims 1, 3, 4, 6-11, and 15-19 are rejected. Claims 2, 5, 12, 13, and 14 are canceled. Claims 1, 3, 4, 6-11, and 15-19 are appealed.

IV. STATUS OF AMENDMENTS

A Final Office Action was mailed on January 6, 2009. A Request for Reconsideration was submitted on June 5, 2009, in which only further arguments were presented. An Advisory Action was mailed on June 30, 2009, in which the final rejection of claims 1, 3, 4, 6-12, and 15-19 was maintained.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 defines a device for locating metallic objects, with only one transmit coil (116) and one receive turn system (112, 114; 212, 214) with at least one receive coil (112, 114; 212, 214), which are inductively coupled to one another (specification, page 10, lines 16-24; Fig. 1). Electrical switching

means (1-8; 1'a, 2'a, 3'a, 1'b, 2'b, 3'b) are provided, which make it possible to vary the number of turns of the receive turn system (112, 114; 212, 214) (page 16, paragraphs 2 through 4; Figs. 3 and 4). The number of turns of the at least one receive coil (112, 114; 212, 214) is variable by connecting or disconnecting electrical conductor modules, and wherein connected electrical conductor modules are coupled inductively with the transmit coil (116) (page 17, line 16 through page 18, line 12; Figs. 3 and 4).

Independent claim 15 defines a method for operating an inductive compensation sensor (110, 210), with only one transmit coil (116) and at least one receive turn system (112, 114; 212, 214) (specification, page 10, lines 16-24; Fig. 1), comprising adjusting a voltage U induced in a receive coil (112, 114; 212, 214) by connecting an adjustment turn system (113, 115; 213', 215') to turns (113, 115; 213, 215) of the at least one receive turn system (112, 114; 212, 214) (specification, page 13, paragraphs 2-4; Figs. 1 and 2). The adjustment turn system (113, 115; 213', 215') includes one or more compensation modules (220, 222, 224) (page 17, first full paragraph; Fig. 4).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 1 and 6-11 are anticipated under 35 U.S.C. 102(e) by U.S. Patent No. 7,202,768 to Harvey ("Harvey");

2. Whether claims 1, 3, and 15-19 are anticipated under 35 U.S.C. 102(e) by U.S. Patent No. 4,775,766 to Kooy ("Kooy");

3. Whether claims 1 and 4 are anticipated under 35 U.S.C. 102(e) by U.S. Patent No. 7,176,691 to Nelson ("Nelson").

VII. ARGUMENT

1. Claims 1 and 6-11 are not anticipated by Harvey.

The present application relates to a device for locating metallic objects. This type of device is NOT disclosed in any portion of the Harvey reference.

The present invention is further characterized by the feature that electrical switching means are provided, which make it possible to vary the effective number of turns of the receive turn system in which electrical conductive modules are switched connected or disconnected. ***The number of turns of the receiving coil of the device of the present invention is therefore varied.***

The system of the present invention thereby has only one transmitting coil and one receiving coil, whereby the number of turns of the receiving coil can be varied by the connection of a further number of turns.

In contrast, Harvey discloses only individual coils 32a, 32b, or 32c (see in particular Figs. 3 or 4) are connected or disconnected. The number of turns of an individual coil CANNOT be varied.

The method of Harvey, which is illustrated explicitly in Fig. 7, different markedly and essentially from the method defined in the pending claims, in which only two coils are provided.

As can be seen in Figs. 2 and 3 and as disclosed in the specification in column 3, at line 28 of Harvey, no connection exists between coil 14 and coils 22

(or 32). The coils 22 or 32 are therefore not connected as a further number of turns of an individual end coil (in the present invention, relieving coil). In the Harvey system, further coils 22 or 32 are added to fixed coils 14 in order to produce a variable inductivity 20. This is very clear in Fig. 4, which clearly shows that the coils 32a, 32b and 32c are separated from one another and in addition, do not form a common coil system with the coil 14.

The present invention as defined in the independent claims is therefore not anticipated by Harvey, since Harvey fails to disclose at least the above features of the invention.

Harvey also does not render obvious the present invention, since this reference provides no suggestion of a receiving coil system, that is, equalizing an individual receiving coil by connecting or disconnecting individual turns/windings of this coil to the transmitting coil. Harvey would merely lead the practitioner to ground or connected one or more coils, respectively, in order to change the inductivity of a coil (see for example also column 1, lines 64-66 of Harvey).

In addition, Harvey only shows an oscillating or resonant circuit, however, NOT a device for locating metallic objects with a transmit coil and a receive coil, as defined in the present claims.

2. Claims 1, 3, and 15-19 are not anticipated by Kooy.

Likewise, the Kooy reference fails to disclose or suggest all of the features of the pending claims. Kooy, like Harvey, also does not disclose or suggest that

the number of turns of the receiving coil of the device of the present invention is varied.

3. Claims 1 and 4 are not anticipated by Nelson.

The Nelson reference likewise fails to disclose the use of only one transmit coil and that the connected electrical conductor modules are coupled inductively with the transmit coil, as defined in claim 1.

Because the claims include features that are not disclosed or suggested by the cited references, the rejections under Section 102 must be withdrawn. Because claim 1 as amended includes features that are not disclosed by any of the references, the rejection under Section 102 cannot stand. MPEP section 2131, last paragraph, states that "a claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference", and that "the identical invention must be shown in as complete detail as is contained in the ... claim". Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. ***Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.***, 221 USPQ 481, 485 (Fed. Cir. 1984). A prior art reference anticipates a claim only if the reference discloses every limitation of the claim. Absence from the reference of any claimed element negates anticipation. ***Row v. Dror,*** 42 USPQ 2d 1550, 1553 (Fed. Cir. 1997).

In view of the foregoing discussion, it is respectfully requested that the Honorable Board of Patent Appeals and Interferences overrule the final rejection of claims 1, 3, 4, 6-12, and 15-19 over the cited art, and hold that Appellant's claims be allowable over such art.

Respectfully Submitted,

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VIII. CLAIMS APPENDIX

Copy of Claims Involved in the Appeal:

1. A device for locating metallic objects, with only one transmit coil (116) and one receive turn system (112, 114; 212, 214) with at least one receive coil (112, 114; 212, 214), which are inductively coupled to one another, wherein electrical switching means (1,..., 8; 1'a, 2'a, 3'a, 1'b, 2'b, 3'b) are provided, which make it possible to vary the number of turns of the receive turn system (112, 114; 212, 214), wherein the number of turns of the at least one receive coil (112, 114; 212, 214) is variable by connecting or disconnecting electrical conductor modules, and wherein connected electrical conductor modules are coupled inductively with the transmit coil.

3. The device as recited in Claim 1, wherein the switching means (1,..., 8; 1'a, 2'a, 3'a, 1'b, 2'b, 3'b) are located between turns (113, 213) of a first receive coil (112, 212) and turns (115, 215) of a second receive coil (114, 214).

4. The device as recited in Claim 1, wherein the electrical switching means comprises jumpers (1', 2', 3') with switching means (1'a, 2'a, 3'a, 1'b, 2'b, 3'b) located between receive coil turns (213', 215') with a different radius R_a or R_b.

6. The device as recited in Claim 1, wherein
the switching means (1,...,8; 1'a, 2'a, 3'a, 1'b, 2'b, 3'b) are realized using semiconductor components.

7. The device as recited in Claim 1, wherein

at least two receive coils (112, 114; 212, 214) are located coaxially relative to each other.

8. The device as recited in Claim 1, wherein at least two receive coils (112, 114; 212, 214) are located in a plane.

9. The device as recited in Claim 1, wherein

at least two receive coils (112, 114; 212, 214) are designed as printed circuit coils, particularly on a printed circuit board.

10. The device as recited in Claim 9, wherein

the switching means (1,...,8; 1'a, 2'a, 3'a, 1'b, 2'b, 3'b) are realized using semiconductor switches on the printed circuit board.

11. The device as recited in Claim 8, wherein at least one transmit coil (116) is located in a plane which is positioned with a height offset and is parallel to at least one receive coil.

15. A method for operating an inductive compensation sensor (110, 210), with only one transmit coil (116) and at least one receive turn system (112, 114; 212, 214), comprising the following steps:

adjusting a voltage U induced in a receive coil (112, 114; 212, 214) by connecting an adjustment turn system (113, 115; 213', 215') to turns (113, 115; 213, 215) of the at least one receive turn system (112, 114; 212, 214), wherein

said adjustment turn system (113, 115; 213', 215') including one or more compensation modules (220, 222, 224).

16. The method as recited in Claim 15, further comprising the step of switching between m different alternative configurations (1'a, 2'a, 3'a, 1'b, 2'b, 3'b) of the electrical contacting for each compensation module (220, 222, 224).

17. The method as recited in Claim 15, wherein the adjustment turn system (113, 115; 213', 215') is composed of at least n (n=1 ... N) independent compensation modules KM_n (220, 222, 224), each having m(n) (m(n)=1 ... M(n)) different configurations, in which a voltage change $\Delta U_{n,m}$ is induced, with ΔU = (U(n,m) - U(n,m+1)), in the receiving branch (212, 214) of the compensation sensor (210) by selectively switching between individual configurations m of a compensation module KM_n (220, 222, 224).

18. The method as recited in Claim 17, wherein the compensation modules KM_n (220, 222, 224) are configured such that the voltage change $\Delta U_{n,m}$ differs from the voltage difference $\Delta U_{n-1,m}$, with $\Delta U_{n-1,m}$=(U(n-1, m)-U(n-1, m+1)), of compensation module KM_{n-1} by the factor M(n-1), with an ordinal number n reduced by one.

19. The method as recited in Claim 17, wherein binary coding with M(n)=2 is used for the compensation modules KM_n (220, 222, 224) of the adjustment turn system (113,115; 213', 215'), so that the relationship ΔU = (U(n,1) - U(n,2)) = 2*(U(n-1,1) - U(n-1,2)) applies.

IX. EVIDENCE APPENDIX.

None.

X. RELATED PROCEEDINGS APPENDIX.

None.